Enhancing Knowledge Dissemination for Sustainable Agriculture Through Multimedia Platforms and Climate-Smart Farming

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Introduction
To enhance knowledge dissemination for sustainable agriculture through multimedia platforms and climate-smart farming, there is a need for the use of traditional media like radio and television, as well as multimedia platforms like digital media, social networks, mobile applications, and plays in spreading awareness of Climate-Smart Farming practices and encouragement. Provision of food security and environmental sustainability that responds to and reduces the effect of climate change, climate-smart farming, or CSF, is crucial. However, getting good climate-smart agricultural instruction is extremely difficult for smallholder farmers in underdeveloped nations. The study assesses how different multimedia tools raise farmers' knowledge of climate-resilient agriculture and promote their involvement and use of these practices. The advent of social media has revolutionized the way information is disseminated, enabling real-time communication and fostering global networks. In the agricultural sector, these platforms have emerged as vital tools for sharing knowledge, promoting sustainable practices, and influencing public perception. Multimedia platforms facilitate the exchange of ideas among farmers, experts, and consumers, thereby playing a pivotal role in the adoption of sustainable farming methods.

Methodology
This study adopts a quantitative survey approach. A structured survey is conducted among 500 farmers across the major cities and farm settlements in Ogun State, namely Ilaro, Oja- Odan, Sagamu, Ijebu-Ode and Odeda, to assess their access to multimedia platforms, digital literacy levels, and the impact of media-based learning on their farming practices. The study also analyzed secondary data from government reports, NGO publications, and online agricultural training platforms to assess trends and best practices in multimedia-based agricultural knowledge dissemination.

Results and Discussion
The study's conclusions indicate that the main multimedia resources for teaching climate-smart farming are radio broadcasts, social media sites like Facebook, WhatsApp, and YouTube, as well as mobile-based advisory services like SMS and apps. More knowledge and application of CSF techniques, such as sophisticated irrigation techniques, drought-resistant crops, and agroforestry practices, are shown by farmers who regularly use multimedia platforms. Low levels of digital literacy and inadequate internetconnectivity pose significant obstacles to using online platforms in remote rural locations. Community radio and television programs become viable options for farmers who cannot access the internet. Multimedia platforms improve farmer-to-farmer knowledge sharing, which increases confidence and expedites the adoption of CSF advances, according to the study.

Conclusion
Overall, the findings highlighted the enhancement of knowledge dissemination through the provision of easily available, up-to-date, and useful information to farmers, Multimedia platforms are crucial instruments for bridging the knowledge gap in climate-smart farming. Despite the advanced learning opportunities offered by digital platforms, traditional media remains a vital tool for engaging with underserved communities. The full potential of multimedia in CSF knowledge transmission can only be fulfilled by solving digital literacy and internet infrastructure constraints. The study recommends increased investment in localized content creation, public-private partnerships, and AI-driven agricultural information systems to enhance multimedia's impact on sustainable agriculture.

Keywords
Climate-smart farming, digital agriculture, knowledge dissemination, sustainable agriculture, mobile advisory services, social media in farming.